the observation he has done, who is, by his own account, new to the study of Tortoises (see P. Z. S. 1870, p. 667), but who could have examined the extensive series of these animals in the Museum.

Sir Charles Schomburgk observes that "the flesh of the Tortoises of this family is fat, and the most savoury of any of the freshwater Tortoises."

Note on Testudo chilensis. By Dr. J. E. Gray, F.R.S. &c.

Mr. Sclater, who gives the name of "*Chilian Land-Tortoise*" to this species in his list of accessions, P. Z. S. 1870, p. 667, objects to my calling it *Testudo chilensis*, because there is a doubt of its being found on the west side of the Andes. Though his notes on this subject appear before my paper, which is printed in p. 706 of the same volume, it was sent to him before his observations were made. Mr. Sclater declares all through his observations that the Tortoise observed by Burmeister, D'Orbigny, and others in South America is *Testudo stellata*, one of the most common Indian species, instead of *T. sulcata*, which *is* the species that these authors erroneously considered common to Africa and America.

Note on Dactylopora*.

A large quantity of materials, together with a careful study of many living and Tertiary species of *Dactylopora* (among them many from the Paris Eocenes and Mr. Karrer's remarkable *D. miocœnica*), and Dr. Carpenter's publications, have materially assisted me in throwing some light on the Triassic forms. The only difficulty is to make generally intelligible the structure of minute organic forms (although giants among the Foraminifera) imbedded in limestones or dolomites, most of them imperfectly preserved, some of them mere casts, others with calcareous infiltrations taking the place of organic substance. The Triassic forms must undoubtedly be ranked among the genus *Dactylopora* in Dr. Carpenter's sense, analogous organisms occurring among the Eocene forms from Paris. These ancient species seem to be essentially characterized by the want of cameræ (in the sense in which Dr. Carpenter uses this term), as merely canals in circular order, frequently grouped by two and two or by four and four, extend from a cylindrical cavity occupied by sarcode, towards the including, calcareous, compact tegument. Dr. Carpenter's "cameræ," as they occur in living and in most of the Tertiary species, cannot, therefore, be admitted as chief generic characters, being evidently mere appendices to the chief sarcode-cylinder, and liable to complete obliteration in certain groups of forms.

Of the ancient forms a striking abundance and diversity are presented, admissible as specifically different, as they occur constantly and uniformly in alpine localities very distant from each other. English naturalists would perhaps recognize the whole series of

* From Dr. C. W. Gümbel's letter to Director Fr. von Hauer, dated Munich, April 23, 1871. Communicated by Count Marschall.

forms as mere modifications of some few, or even of one single species. Subjective as the idea connected with the term "species" may be, it must be adhered to objectively wherever differences (even the most minute ones) are *constantly* observed in certain groups of forms, whatever may be their size and degree of organization. The *Dactylopora* from the Wetterstein limestones is very remarkable. Had not the Neocomian age of this deposit been ascertained by stratigraphical facts, the occurrence of this species in it would have raised the question whether it should not rather be regarded as belonging to the deeper Triassic horizons.

Pala Wax.

Near this village I noticed for the first time the "pa-la," or "white-wax insect," which produces the famous so-called vegetable wax of Sz-chuan. The branches of the smaller trees and shrubs along the road for a great distance appeared to be covered with snow, from the quantities of these insects, resembling small moths, of a delicate white colour, with a fluffy tail curling over the back.

The cultivation of wax is a source of great wealth to the province of Sz-chuan, and ranks in importance second only to that of silk. Its production is not attended with much labour or risk to the cultivator. The eggs of the insect which produces the wax are annually imported from the districts of Ho-chin or Ho-king, and Why-li-tzow, in Yunnan (where the culture of eggs forms a special occupation) by merchants who deal in nothing else but "Pa-la-tan" (white-wax eggs). The egg-clusters, which were described to me as about the size of a pea, are transported carefully packed in baskets of the leaves of the "Pa-la-shu" (white-wax tree), which resembles a privet shrub, and arrive in Sz-chuan in March, where they are purchased at about twenty taels per basket. The trees by the middle of March have thrown out a number of long tender shoots and leaves; and then the clusters of eggs, enclosed in balls of the young leaves, are suspended to the shoots by strings. About the end of the month the larvæ make their appearance, feed on the branches and leaves, and soon attain the size of a small caterpiller or, rather, a wingless house-fly, apparently covered with white down, and with a delicate plume-like appendage curving from the tail over the back. So numerous are they, that, as seen by me in Yunnan, the branches of the trees are whitened by them, and appear as if covered with feathery snow. The grub proceeds in July to take the chrysalis form, burying itself in a white wax secretion, just as a silkworm wraps itself in its cocoon of silk. All the branches of the trees are thus completely coated with wax an inch thick, and in the beginning of August are lopped off close to the trunk, and cut into small lengths, which are tied up in bundles and taken to the boiling-houses, where they are transferred, without further preparation, to large cauldrons of water, and boiled until every particle of the waxy substance rises to the surface; the wax is